

Examples of Air Show Special Provisions.

As appropriate, include the following applicable special provisions in addition to the common special provisions in paragraph A of this section for events that include air shows.

B. Air Show Special Provisions.

1. All civil pilots who perform aerobatics must possess:
 - a. A valid FAA Form 8710-7, Statement of Acrobatic Competency, or Transport Canada Aviation (TCA), Form 26-0307, Statement of Aerobatic Competency. All limitations and endorsements on the form will be adhered to including altitude restriction for the entire performance. (Ref. 3-145 A 1)
 - b. Pilots that execute maneuvers more 75 degrees of bank but no more than 90 degrees and/or pitch attitudes more than 60 degrees but no more than 90 degrees of bank only require a logbook endorsement or competency letter from a qualified evaluator as described in 8900.1, V3, C6. (Ref 3-145 A.2)
2. All civil aircraft pilots must show evidence of performing or practicing their performance(s) within the previous 15 days.
3. All civil aircraft pilots that perform formation aerobatics must ensure the following requirements are met:
 - a. The members of the aerobatic team must have performed together in 10 aerobatic performances over the preceding 12 months; or
 - b. When the team members have flown fewer than 10 aerobatic performances in the past 12 months, the team must be able to document 30 aerobatic practice sessions or combination of 30 practice sessions and air show performances as a team over the preceding 12 months in the performing aircraft type; and
 - c. All persons conducting formation aerobatics must have demonstrated or substantiated their skills as a team and have the formation aerobatics notation placed on their SAC.

Note: An air show performance conducted under a CoW issued for an “air show” is never counted as a practice.

Note: This evidence of performing or practicing can be a logbook endorsement, a written statement, or by noting this statement on the CoW sign-in sheet. The required practice or performance must be in the same aircraft make and model and the same maneuvers that will be performed at this event.
4. All military pilots must have command approval and FAA approval to conduct a demonstration in accordance with an approved maneuvers package. (Ref. 3-149)

5. Civilian pilots who wish to conduct non-aerobatic formation flight in waived airspace must possess a valid industry formation training and evaluation credential acceptable to the FAA. (Ref. 3-145 E 1)

6. A fly-by can be performed by a single aircraft, by aircraft in formation, or by aircraft in trail, along show lines at a minimum horizontal distance of not less than 500 feet from spectator area(s), congested areas, or occupied buildings; and in accordance with the following conditions:

- a. By Category I or II airplanes— no abrupt maneuvers between the corner markers, and no lower than 100 feet AGL when less than 1,000 feet from a designated spectator area, unless the pilot possesses a current surface level SAC card for the make and model of airplane being flown.
- b. By all airplanes—using a bank angle of no more than 75 degrees, a pitch angle of no more than 60 degrees, and a maximum indicated airspeed of no more than 300 knots, regardless of the show line category, unless the pilot possesses a current surface level SAC card for the make and model of airplane being flown.
- c. By formation flights---no lower than 200 feet AGL, using a bank angle of no more than 60 degrees, a pitch angle of no more than 45 degrees and a maximum indicated airspeed of no more than 250 knots, regardless of the show line category.
- d. Corner markers must be highly visible landmarks or contrasting markers easily visible from 200 feet AGL at 200 KIAS that identify the crowd line 500-foot lateral separation (corner) points left and right of the primary spectator area (see Figure 3-29).

NOTE: Per § 91.117(d), if the minimum safe airspeed for any particular operation is greater than the maximum speed required by § 91.117(a through c), the aircraft may be operated at that speed.

7. For the purpose of this event, the definition of aerobatic flight contained in 14 CFR § 91.303 is waived. (Ref. 3-143 A 2)

8. The following aircraft attitudes will be considered aerobatic flight:

- a. For all solo aircraft: when the pitch angle exceeds a positive or negative 60° angle from the horizon, and/or when the bank angle exceeds 75°.
- b. For formation flights: when the pitch angle exceeds a positive or negative 45° angle from the horizon, and/or when the bank diverges from level flight in excess of 60°.(Ref. 3-145 D)

9. Repositioning Turns.

- a. All military pilots and civilian holders of a statement of aerobatic competency card are permitted to perform repositioning turns using a maximum of 120 degrees of bank and 90 degrees of pitch when above 500 feet AGL and not over designated spectator areas or congested areas.
- b. Holders of an endorsement for pitch and bank angles up to 90 degrees are permitted to perform repositioning turns to those limits above 500 feet AGL when not over designated spectator areas or congested areas. (Ref. 3-147 L)

10. Aerobatic maneuvers and sequences/performances that contain aerobatic maneuvers must be initiated, performed, and completed at or above the altitude listed in the limitations on the SAC.

11. Non-aerobatic flybys may be performed below the altitude limitation listed on the SAC only before or after the sequence/performance is completed. The performer may not interrupt an aerobatic sequence/performance to perform a non-aerobatic flyby below the altitude restriction.

12. A show line (man-made or natural) clearly visible to the performers/pilots shall be provided to assist them in compliance with the approved distances from the spectator area(s). The show line will include a clearly visible (from 200 feet AGL at 200 KIAS) show center marker and corner markers that are 500 feet beyond the spectator areas along the crowd line to provide reference to pilots entering or leaving the flying display area. (Ref. 3-147)

13. Except when authorized during takeoff or landing, aircraft that operate at speeds of 156 knots or less and certain other Category III aircraft shall perform no closer than 500 feet horizontally from the spectator area[s]. Any single reciprocating-engine airplane, regardless of speed, with a maximum certificated gross weight of no more than 2,250 lbs. is also a Category III aircraft. (Table 3-1)

NOTE: The dimensions of the aerobatic area (the area referred to as "C" in Figure 3-24) for Category III aircraft may vary. It only needs to be large enough to provide sufficient space for Cat III performers to complete their aerobatic maneuvers within it. The only requirement that may not be altered is that the minimum distance from each side of this aerobatic area to the primary and secondary spectator areas respectively may not be less than 500 feet at any time.

14. Except when authorized during takeoff or landing, aircraft that operate at speeds of more than 156 knots but 245 knots or less shall perform aerobatic maneuvers no closer than 1,000 feet horizontally from a single spectator area. If two spectator areas are used, the show lines may be no less than 800 feet from one spectator area and no less than 1,000 feet from any other designated spectator area. (Table 3-1)

Note: The dimensions of the aerobatic area may vary. It only needs to be large enough to provide sufficient space for Cat II performers to complete their aerobatic maneuvers within it. The only requirement is that the minimum distance from each side of this aerobatic area to the primary and secondary spectator areas respectively may normally not be less than 1000 feet. This distance may be reduced only on one side only of the Cat II aerobatic area to no less than 800 feet from either the primary or secondary spectator areas in accordance with the guidance provided in Paragraph 3-147, Table 3-1.

15. Except when authorized during takeoff or landing, aircraft that operate at speeds of more than 245 knots shall perform aerobatic maneuvers no closer than 1,500 feet horizontally from a single spectator area. If two spectator areas are used, the show line may be no less than 1,200 feet from one of the designated spectator areas, and no less than 1,500 feet from any other designated spectator area. Single Cat I airplanes or the center of formation flights of Cat I airplanes must be centered on this show line.

NOTE: Applicable to Category I, II, and III showlines. For reciprocating engine powered airplanes, these distances are predicated on true airspeed in straight and level flight at 75 percent power at standard temperature and pressure (15°C/sea level) and maximum certificated gross weight. For turbine engine powered airplanes, the distances are based on 85 percent of the maximum continuous powered straight and level flight true airspeed at standard temperature, pressure, and maximum certificated gross weight. Any turbine engine powered airplane for which valid performance data acceptable to the FAA is not available will be required to perform on or beyond the Category I show line. (Table 3-1)

16. Flight demonstrations shall not be conducted during the day unless the ceiling is at least 1,500 feet, and the visibility is at least 3 statute miles at the time of the demonstration. The FAA IIC may adjust the minimum ceiling and visibility requirements at his/her discretion, but no less than 1,000 feet and 3 statute miles if:

- a. Except for North American military performers, aerobatic maneuvers are conducted by Category III aircraft only within an operations area having a diameter of no more than 2 statute miles; and
- b. Originally scheduled aerobatic maneuvers are not modified or conducted in close proximity to the surface as a result of the reduced weather conditions.
- c. If 14 CFR Section 91.155 is waived the cloud separation may be reduced to "Clear of Clouds" by the IIC
- d. No other reductions in weather requirements shall be made. (Ref. 3-154)

13. Aircraft maneuvers may not direct energy toward primary spectator areas. Certain related maneuvers and procedures, however, may be authorized as outlined below:

- a. Non-aerobatic maneuvers where the aircraft is pointed at the primary spectator area are permitted as long as the aircraft is beyond the appropriate show line for category (i.e. 500 feet for CAT III; 1,000 feet for CAT II and 1,200 to 1,500 for CAT I) without energy towards the crowd considerations. (Ref. 3-147 K)
 - b. Aerobatic maneuvers conducted inside the aerobatic box that in the event of a catastrophic failure a part of the aircraft would contact the surface at or inside the primary spectator area between the corner markers are prohibited. (Ref. 3-147 K)
 - c. Aerobatic maneuvers that do not fit the description in 25(a) or 25(b) above require AFS-800 approval. (Ref. 3-147 K)
 - d. Maneuvers on an oblique line that pass 500, 1,000, or 1,500 feet to either side of a spectator area as appropriate to the category of aircraft being flown during oblique aerobatic maneuvers. (Ref. 3-147 K)
17. For the U.S. Air Force Thunderbirds and Heritage Flights, U.S. Navy Blue Angels, and Canadian Snowbirds approved maneuvers include level or climbing (normal rate) non-aerobatic flight over any spectator no less than 500 feet above the highest point in the primary spectator areas. All other performers must be at or above 1,000 feet above the highest point in the primary spectator areas. (Ref. 3-147 H)
18. Any maneuver or speed approved by AFS-800 in the FAA approved maneuvers package or FAA accepted military order are permitted if performed as approved. These may be exceptions to FAA Order 8900.1, Volume 3, Chapter 6. For US Military Jet Teams, flight below 500 feet AGL over occupied buildings is permitted in the transition areas depicted in their maneuvers package. Low altitude ingress and egress routes below 500 feet AGL require FAA IIC approval. (Ref. 3-148 B5c)
 - a. FAA IIC approval [add granted], [add denied] add [N/A]
19. An arrival demonstration is not authorized unless an advance member of the US Military Jet Team has been briefed on the show line and pertinent special provisions of the waiver. This information must be relayed to the team leader before the arrival demonstration. (Ref. 3-148 B 4)
20. Spectator areas may not be closer than 500 feet from any takeoff and landing runway when the approach speed (V_{ref}) of any aircraft exceeds 100 knots and/or for any aircraft that has a certificated gross weight of more than 50,000 pounds. Aircraft with both an approach speed (V_{ref}) of 100 knots or less and a certificated gross weight of 50,000 pounds or less shall be required to use a runway that is at least 300 feet from the spectator area.

- a. If ALL aircraft and ultra-lights in an air show have approach speeds of less than 60 knots, and certificated gross weight of less than 2,500 pounds, and there is no excessive maneuvering during takeoff or landing, spectators may be as close as 200 feet to the takeoff or landing runway.
- b. Comedy routines that involve excessive non-aerobatic maneuvering immediately after takeoff or just before landing must also be separated from the spectator area by at least 500 feet.
- c. These distances can be measured to the runway centerline for single aircraft operations, in which case the aircraft are expected to operate on the runway centerline. For formation takeoffs/landings, this distance shall be measured to the runway edge. (Ref. Table 3-2)